

**STATEMENT OF LAURA E. DROUGHAN
BEFORE THE SUBCOMMITTEE ON FINANCE AND HAZARDOUS MATERIALS
U.S. HOUSE OF REPRESENTATIVES**

REGARDING H.R. 1053: "THE COMMON CENTS STOCK PRICING ACT OF 1997"

Wednesday, April 16, 1997

I would like to thank Chairman Oxley and the other members of the Subcommittee for the invitation to appear before you today and share my experience and comments on the implementation of decimal trading by the Canadian stock exchanges in 1996. The comments I express today are my own and do not necessarily reflect those of my employer, Nesbitt Burns Inc., or the Toronto Stock Exchange. I am currently the Chairperson of the Toronto Stock Exchange's Systems Committee and it is in that capacity that my name was put forth to share my views. Nesbitt Burns is one of Canada's leading full service investment dealers, serving individual, institutional, corporate and government clients.

My statement will focus briefly on four topics: 1) the conversion process; 2) conversion costs; 3) the impact of decimal trading; and 4) some suggestions for consideration if converting to decimal trading.

CONVERSION PROCESS

Once the decision to move to trading in decimals was made by the four Canadian exchanges, Nesbitt Burns staff became involved in three areas: i) determining the amount of the system work to be done; ii) commenting on the proposed trading increments; and iii) analyzing the impact of how the change was to be implemented.

System Work

A list was prepared of all systems and applications used in the trading and the reporting of equity transactions, dividing them into two groups--those that were provided by/had been acquired from third parties and those that had been developed internally. Each of them was reviewed to ascertain whether any changes were required in order to accommodate equity trading in decimals. Of the 20 applications and systems used

by Nesbitt Burns for equity order entry, market data displays, analytics, trade processing and reporting, almost all of them were already decimal compliant, with only one third party application requiring significant changes.

Proposed Trading Increments

The TSE Board of Governors asked for input from each of its three trading committees and the Investors and Issuers Advisory Committee as to the trading increments that should be adopted and how decimalization should be implemented. As I recall, Nesbitt Burns had three representatives on these committees. One of the committees met three times to discuss the issue of increments. There was no consensus reached among the committees as to the specific increments, except that the minimum increment for stocks trading under \$10.00 be \$0.05. In the end, the TSE Board of Governors established the trading increments.

Implementation

The process at Nesbitt Burns began with communicating to all areas of the firm that the four Canadian exchanges planned to move to decimal trading. The list of areas within Nesbitt Burns which would be impacted by the change was refined throughout the system review process.

The exchanges' plan was to move to decimal trading in phases determined by the price levels of the stocks and implemented over a period of two weeks (i.e. three weekends). The member firms with large retail orderflows believed the exchanges' proposal to be unmanageable. We were very concerned about the complexities of managing our open order file, staff resources over three weekends and the confusion that might ensue amongst our clients as well as a large retail sales staff during a phased in process. The exchanges were asked to consider a "big bang" implementation because it was seen as being significantly less complicated. Since all Canadian exchanges could support either method of implementation, the TSE was given the proxy to determine the implementation strategy. The TSE was somewhat reluctant to proceed with

the big bang approach. Their trading systems were old with little or no systems documentation. There was concern because of the unknown risks and that changing the trading increments for all stocks at once would increase the possibility their systems might experience performance and/or capacity problems. The TSE acknowledged that a more lengthy implementation would be more complex for the large firms. To ensure the matter was reviewed and the risks to the exchanges of both implementation alternatives understood, the subject was referred to the TSE's Systems Committee. The Committee recommended the big bang approach. Shortly thereafter, the implementation strategy was changed to the big bang approach.

Since our firm did not have any internal applications which required changes to accommodate decimal trading, Nesbitt Burns testing efforts for this initiative were primarily focused on participating in testing with the exchanges and our OMS¹ vendor. The original plan called for there to be two tests, with a possible third one, if necessary. The first two tests involved the four exchanges, some of the member firms (including Nesbitt Burns) and a few data vendors. Since some problems were experienced in the first two tests, a third industry wide test, with all member firms, exchanges, clearing corporations and vendors (OMS, market data, newspapers etc.) was organized to validate readiness for the conversion. Although participation in this test was advertised as "mandatory" and emphasized the business risk associated with not participating, not every party did or was able to participate in the end to end testing process. This was of concern to us because our one trading application that had required significant changes was dependent on market data provided by a vendor who said it could not participate in the testing. Consequently we were unable to test that application ourselves until decimal trading went live. Fortunately we did not experience any significant problems with that system.

¹ Order Management Systems are used to facilitate the collection of orders from retail branch offices and to route them to prespecified designations.

The Friday night before the conversion, the exchanges canceled all open orders above a certain price, even if the instrument was currently trading in decimals. On Saturday, each of the exchanges made their systems available in a pre-market-opening state so that the member firms could re-enter their open orders with the new order prices. Since open orders are predominantly a function of the private client business as opposed to institutional, Nesbitt Burns had support staff in almost every retail branch office on the Saturday in order to re-enter open orders. Given the magnitude of the change to decimal trading, we experienced very few technical problems with the cutover. If staff forget and enter orders with fractional prices to one of the Canadian exchanges, the orders are rejected by the exchanges' systems back to an OMS supervisor at Nesbitt Burns for handling.

CONVERSION COSTS

For Nesbitt Burns, the cost of converting to decimal trading was really limited to people costs. Our greatest expense was the time spent by staff: reviewing our systems, testing with the exchanges, and in particular, discussing what the trading increments should be and how decimal trading should be implemented. This person day effort was not tracked nor quantified in dollar terms.

IMPACT OF DECIMAL TRADING

The following changes have been noted since the implementation of decimal trading:

Retail Trading

- An increase in the number of CFO's² as clients chase the price movements
- Receipt of more tradeable limit orders³ so as to reduce the need or desire to chase price movements--For example, if the trading increment for a stock is \$0.05 and the market is \$10.15-\$10.25, we see Buy orders being entered with a limit price of \$10.35

² Change Former Order with respect to price, quantity or terms

³ A tradeable limit order is a limit order whose price is equal to or better than the price on the opposite side of the market. For example, if the market is \$10.15 - \$10.25, a tradeable limit Buy order would be an order entered at \$10.25 or better; a tradeable limit Sell order would have a limit price of \$10.15 or better.

- If the spread is too narrow, there is not the same commitment to the retail orders as there was before. The Designated Market Makers are unhappy because they don't benefit sufficiently on the spread, which was seen as compensation for providing a continuous two-sided market.

Institutional Trading

- No appreciable evidence of U.S. accounts coming into the Canadian marketplace because of its move to decimal trading
- Less interest by the Canadian accounts in going to the U.S. marketplace
- Clients are seeking more competitive pricing than before
- More effort required to keep track of the multiple price levels that orders are executed at

Liquidity and Volatility

- With the move to smaller increments, we have seen liquidity in the less active stocks become even less and this can lead to more volatility in the stock prices.
- In the more active stocks, there is better price continuity and therefore less volatility in their prices movements.
- It appears there is less liquidity if only viewing a single line quote because there can be a lot of size hidden behind the current bid/offer.
- For the active stocks, the spread is reduced on the displayed market sizes.
- x For the stocks interlisted with the U.S., there has been an improved ability to obtain relatively better prices in Toronto vis-à-vis New York.

Market Depth

- Because of the smaller increments, there is usually less volume wanted/available at the current bid/offer. The Market-By-Price®⁴ displays have become a critical information tool. This market data display is now heavily relied upon in order to “size”/assess the depth of the market.
- When trading in fractions, the Market-By-Price displays for the active stocks usually indicated stock wanted/available within \$0.50⁵. Today, one can only gauge the depth of the market available within \$0.20⁶.

SUGGESTIONS

To have a smooth conversion to decimal trading, I would make the following suggestions:

- There should be mandatory conversion of all markets simultaneously. The same conversion rules that are applied to equities should be applied to options.
- Since it is difficult to assess the progress of all parties involved in making changes for a common initiative, all industry participants should participate in early testing to save time and money.
- Be forewarned--not all vendors have the ability to capture test data and isolate it from their production environments. In the Canadian conversion process, this either precluded them from participating in testing or required that the firms using such a vendor undertake manual work in order to purge the data from a production system.
- Many firms have automated trading applications that are driven by market data. Data vendors should participate in testing, especially if the application had to be modified.

⁴ Market-By-Price is a Registered Trademark of the Toronto Stock Exchange. This information display is similar to NASDAQ Level II. It displays a chain of the five best Bids and Offers for any stock. The Vancouver Stock and the Montreal Exchanges also offer a similar display .

⁵ Since a tick or trading increment was \$0.125 and the display showed the next four best bids/offers (4 x \$0.125)

⁶ 4 x the \$0.05 increment.

- The better your systems documentation is, the easier the move to decimals will be.
- People should not presume that systems/applications do not have to be changed.
- Since numerous studies have been undertaken to collect statistical data on trading in fractions, ensure that you are able to capture analysis in the post conversion phase and use the data to determine if the trading increments selected were appropriate. Be prepared to adjust the increments if necessary.

Thank you. I would be pleased to answer any questions you might have.

Laura E. Droughan
Vice President and Director
Nesbitt Burns Inc.

Laura Droughan is Vice President and Director of Equity Trading Systems and Technology at Nesbitt Burns Inc., a member of the Bank of Montreal Group of Companies and Canada's leading full-service investment firm.

Ms. Droughan directs the technology strategy and implementation of equity trading systems which support the firm's major equity trading desks located in Toronto, Montreal, Vancouver and New York and has held this position since before Burns Fry merged with Nesbitt Thomson in 1994. She has been Chairperson of the Toronto Stock Exchange's Systems Committee since 1995.

At the time of the merger, Ms. Droughan was employed by predecessor firm Burns Fry where her responsibilities also included managing the retail equity trading department (1988-1994) and acting as financial controller for the Institutional Equity division in Canada (1990-1994).

Prior to joining Burns Fry, Ms. Droughan worked for the Toronto Stock Exchange where, as Assistant Director of Equity Market Operations (1986-1988), she participated in the development of technology to increase the level of automation in equity trading.

Ms. Droughan's first position in the financial services industry was in 1979, when she was employed by the Toronto Dominion Bank as a management trainee. From 1979 to 1984, she progressed through numerous positions in the retail banking division. She then transferred to the stock brokerage business by spending the next two years working for Green Line Investor Services, the bank's discount brokerage business, first as the Operations Manager and subsequently, as manager of Green Line.

Ms. Droughan received her bachelor's degree in Economics and Commerce from the University of Toronto. She has been a member of Women in Capital Markets since its inception and has previously served on the Montreal Exchange's Systems Committee.